tree here, being completely dominant on all the slopes inclined toward the sea--both the Sea of Okhotsk and the Bering Sea; accordingly there is an overwhelming impression of a forest of deciduous trees. Only in the interior, where the continental climatic traits predominate, is the /98/ east Siberian taiga with the Daur larch preserved under the protection of the two mountain ridges. The higher mountains projecting beyond the tree line are again covered with a bent wood vegetation /Krummholzvegetation/, which is especially thick on Kamchatka and which often makes wide areas almost impenetrable. Along the west coast a tundra-like moss steppe has developed, which covers the northern part of the peninsula across from west to east. In contrast to the conditions which become more unfavorable toward the north, the vegetation increases toward the south both in abundance of growth and in types. Worthy of note is the appearance here of the Japanese birch (Betula japonica) and of numerous higher types of grass, such as Heracleum tanatum and Heracleum dulce, and the wide diffusion of the bear root /Bärenwurzel/ (Angelica ursina), which becomes up to three meters tall. The appearance of extended forest meadows in the southern part of the peninsula has also caused the introduction of cattle breeding. 137

The regions of the extreme northeast can generally be designated as tundra or forest tundra.

The World of Animals

Following the pattern of the natural vegetation set-up, the animal world has the same juxtaposition of the most varying forms. East Asiatic and Inner Asiatic types join with the Siberian types. In the land once famous for its wealth of wild animals, an unbelievably rapacious economy /Raubwirtschaft/ has either destroyed the useful wild animals or driven them into inaccessible regions. Nevertheless, the regions still little touched by man are extraordinarily great, and there the animals have been able to preserve themselves in all freedom and in great numbers. 136

Numerous rodents, which are especially characteristic of steppe regions, are native to the forest steppes and steppes of Transbaykal: for example, the "suslik," the ground squirrel (Citellus Eversmanni and Citellus dauricus); the "tarbagan," a type of woodchuck (Arctomys bobak), the earth hare or jumping hare /Erd- oder Springhase/ (Alactaga saltator mongolica), and others. Larger steppe animals,

• 136 however, either are lacking or have been exterminated. The still untouched forest areas both in Transbaykal and in other regions, on the other hand, are very much richer in animals. Two real northern animals--the reindeer /Ren/ and the elk--live as far down as the northern Sikhote-Alin'. The reindeer is kept by the native Tungus as a domestic animal, but the wild reindeer can also still be found in large numbers in the north. The elk (Alces machlis) prefers swampy regions with deciduous forests and on its long wanderings penetrates as far south as 46° latitude. In contrast to its northern brother, the Ussuri elk does not have palmate antlers /Schaufeln/, but rather only stick-like antlers /Stangengeweih/, but it is just as big and primeval as the northern elk. The stag is hunted the most; the stags hunted here are the large "isiubr" (Cervus canadensis Luhdorfi) and the smaller spotted stag /Fleckenhirsch/ (Cervus Dybowskii). The latter, which belongs to the Sika stags /Sikahirschen/, is easily tamed and is therefore to be found in most European zoos. With /99/ the "isiubr" the Panten /spikes?/, the still unhardened antlers, are especially valuable and are exported to China as a folk medicine which brings good prices. Reckless hunting has driven the "isiubr" into the most remote regions. Both types of stag are bred on farms today. Widely diffused are the roe and, in mountain regions, the wild sheep, which appears in various types: Ovis ammon monglica in Transbaykal; Ovis jubata and Ovis Middendorffiion the Amur and Uda; Ovis storcki and Ovis alleni on the Sea of Okhotsk; and Ovis nivicola on Kamchatka. Beasts of prey are very numerous in the taiga. The animal characteristic of the taiga is the bear. He plays a big role in the mythology of the natives and is designated respectfully as "the lord." In addition to the usual brown bear, there is also a small black type and as well as the Tibetan white-breasted collar bear /Kragenbär/ (Ursus tibetanus), which is considered to be especially evil. In addition the following should be mentioned here: the wolf, the red wolf (Cuon alpinus), the glutton (Gulo luscus), the lynx, the wild cat (Felis euptilura), and various types of foxes. The red wolf is a jackal-like wild dog and as a rule is to be encountered wherever the wild sheep appears.

Various valuable fur animals are much hunted and therefore in many regions almost completely exterminated; examples of these are the sable (Martes Zibellina), the marten (Martes flavigula borealis), the ermine (Mustella erminis), the fish otter (Lutra vulgaris), the squirrel (Scurius vulgaris), and the rarer flying squirrel (Sciuropterus volans). Most of these animals have withdrawn to the remote parts

of the forest regions.

In the Ussuri region and in the Sikhote-Alin', because of the 136
the southern location, still other animals worthy of mention appear in addition to the inhabitants of the forest regions already mentioned. Characteristic animals here are the Amur tiger (Felis tigris longipilis), the wild boar (Sus leucomystax continentalis), and the peculiar marten dog /Marderhund/, "enot," (Nyctereutes procynoides). The wild boars, for whom the oak forests provide excellent nourishment, dwell in great numbers, mostly in herds, in swampy regions with forests of deciduous trees or mixed forests. Following them is the tiger who is larger and has a more valuable fur than the Bengal king tiger /Königstiger/. He is, however, to be encountered only very rarely and only in mountain areas off from the beaten track. The marten dog is a dangerous beast of prey, who hunts roes and often even penetrates into the dwellings of men.

The world of birds is represented in large numbers. While tundra birds, such as the partridge (Lagopus mutus), nest on the mountains projecting beyond the tree line, in the Ussuri region we find numerous southern forms, such as the pelican, white heron, and the Cormorant. In the forests mountain cocks, black grouse, and numerous woodcocks are to be encountered, and in clearer regions partidges, quail, and also pheasants are found. The pheasants often migrate in large numbers from Manchuria into the Amur and Ussuri regions. Swans, wild geese, ducks, divers /Taucher/, and moor hens /100/ appear in very large numbers on all lakes and swamps. Khanka Lake is a real paradise for birds.

Amphibians and reptiles are to be encountered everywhere; they are especially numerous in the warmer Ussuri country. Among the snakes special mention should be made of the Natter Coluber Schrenckii, which becomes up to 1.5 meters long and 6 centimeters thick, and the especially poisonous Ancistrodon Blomhoffi.

The insect world should not go without mention. In the summer immense swarms of gnats develop which make life a real plague for both man and beast. Especially irritable are the stings of small stinging gnats, which the Russians designate generally as "gnus," i.e., vermin.

Of greater economic importance is the wealth of fish in all parts of the sea near the coasts. Every year great swarms of herring appear in the south, coming from the Sea of Japan. The area around the mouth of the Amur is distinguished by the regular appearance of

•136 great schools of salmon, which come up the river to spawn. Most numerous are two types of salmon--the Keta salmon (Oncorhunchus Keta Walb.) and the humpback salmon called the gorbusha by the Russians. The Sea of Okhotsk has in addition herring, cod, tuna fish, and mackerel. The coastal area of Kamchatka have the riches supply of crabs in the world. On the eastern side of the peninsula it is principally Pacific types of salmon that are caught: the red salmon (Oncorhunchus nerka Walb.), the silver salmon (Oncorhunchus Kisutch Walb.), and the king salmon (Oncorhunchus tschawytscha Walb.). Originally the Bering Sea was extraordinarily rich in sea animals, expecially whales and seals, but these have been heavily decimated by man.

/101/ THE POPULATION

Prehistory and Colonization

171 Various discoveries of New Stone Age implements prove that
172 the Amur and Ussuri regions were already occupied by man at the turning point between Diluvium and Alluvium /the Diluvial and Alluvial Ages?/. Among the tools found are simple hatchets, chisels, spearheads, scrapers, and knives, hammered out of stone; but also known are polished tools such as those of the Neolithic Age in north Germany. Additional findings of an advanced, more recent Stone Age show string and ribbon pottery, similar to that of Europe's culture at the same time. (181)

181. A. Schultz, Das Ussuri-Land /The Ussuri Region/ (Königsberg, Prussia, 1932).

175 We derive our first historical information on these same regions from the old Chinese history books, which go back to 2500 B.C. According to these sources, in the land of the Amur and Ussuri there lived the Sushe in the east, the Huei (also called Hueimai) in the middle of Manchuria, and the Tonghu /Dunghu/ in the west. All three peoples, who were subdivided into numerous smaller tribes, are mentioned in the same areas even as late as the second century B.C. According to present-day research, the Sushe and the Huei are to be interpreted as Tungus, while the Tonghu /Dunghu/ are regarded as pre-Mongols. Discoveries of Stone Age culture of the latter people extend over all of eastern Mongolia. The Sushe and Huei lived predominantly in forested areas, while the Tonghu preferred the open plains. Thus, even

133 over long years, Lake Baykal remains for 116 days under a solid ice
132 covering, which can attain a thickness of up to 1.25 meters.

The fauna of the lake[1] is peculiar, representing a true collection
136 of endemic forms. Of the 1,000 types determined so far, around 75 percent are endemic. Here in the middle of the continent there is a type of seal called "nerpa" by the Russians (Phoca sibirica), which is related both to the same type found in the Arctic Ocean (Phoca hispida) and also to one found in the Caspian (Phoca caspia). The next fauna worthy of mention is the small, viviparous spider fish (Callionymus baicalensis), whose family (Comephoridae) is peculiar only to Lake Baykal. Exceedingly large is the number of mollusks. To date 85 types have been determined, of which two endemic families of brachiopods (Benedictiidae and Baicaliidae) are typical fresh water representatives. The great age of the Baykal fauna, which must have followed an isolated development, indicates the /209/ /Sketch Map of the Provinces:// /210/ appearance of the Baicalia mollusks already in the fresh water deposits of the lower Cretaceous in Transbaykal.

505 As a result of its depth and its favorable natural landing places, Lake Baykal offers the best opportunities for water transportation. A steamer line which is traveled regularly, connects all the larger settlements with one another and also serves the transportation of goods. Wood constitutes the bulk (40 percent) of the goods transported, in second place are stones and building material (30 percent), then follow fish, salt, flour, and others. The wood as a rule is floated down the rivers to the lake and then is transported by steamer tugs to the mouth of the Angara, where it is transferred to the railroad in Baykal station, which is equipped with mechanized loading equipment, or a small part of it is floated directly to Irkutsk. Wood is delivered on the Transbaykal side primarily by the river areas of the Barguzin and the Upper Angara.

228 Also of economic significance is fishing, which is pursued both in the open sea and also in the bays. The principal role in this fishing is played by the catching of a type salmon, the omul (Coregonus omul Pall. or Coregonus migratorius), and of fish related to the omul: these fish constitute 58 percent to the catch. In second place are types of carp (22 percent), which are caught primarily in the lagoons and in neighboring lakes. Also the catch of seals, already mentioned, is not insignificant. In 1948 there were 1,380 animals caught. Fishing is pursued both by the state and also by fishing kolkhoz. The latter caught 68 percent of the total catch in 1949, while the state was

[1] [i.e. Lake Baykal -- Analyst]

the schools of salmon which regularly press up the river here in immense masses for the spawning period. 133 [136]

The vegetation of Kamchatka, under the influence of the heavier rainfall and the milder temperatures, has another stamp from 137 that of the forest landscapes along the coast of the Sea of Okhotsk, and in the southern part of the peninsula the vegetation even attains an extraordinarily luxuriant character. The bright, shining green of the deciduous trees dominates the picture, and only in the interior of the Kamchatka valley does the dark color of coniferous forests with Daur larch and silver firs appear. There is on Kamchatka no forest of the type of the Siberian taiga. The characteristic tree here is the birch, and in the first place is the stone birch (Betula ermani) with its gray to red bark. However, the birches never come together in thick stocks; rather they always preserve a certain distance from one another, thus giving rise to a kind of park landscape. Along with poplars, alders, and mountain ashes, the birch covers the entire area of the eastern coast. The landscape here is magnificent when the red fruits of the mountain ash glow out between the various greens in late summer. However, the growth of trees ends on the eastern slopes at a height of 300 meters in the north and at a height of 550 meters in the south. The all too great, cool dampness no longer permits the growth of trees. From the interior of the Kamchatka valley, however, the same birch forest rises to a height of 600 to 750 meters. In the underwood of these forests the Kamchatka honeysuckle (Lonicera edula) is especially worthy of note. Its black-brown fruit is collected in August in large quantities as food by the inhabitants. At heights of 300 to 550 meters the birch forest gives way to the already often mentioned bent wood vegetation, which is especially typical for the mountainous sections of Kamchatka. It consists here of a confusion of entwined branches of creeping alder, Siberian stonebirch, and mountain ash, between which individual rhododendron types grow. These bushes cover whole areas and slopes, and are often so matted that a path through them must be made with an axe, unless one wants to follow a bear path; for the bear has withdrawn into this thicket and is still preserved today in larger numbers. At approximately 800 meters this bush formation ends and is replaced by the zone of the Alpine flora, which generally 133 reaches up to a height of 1,400 meters. The glacier line on Kamchatka lies at a height of 1,500 to 1,700 meters, and thus most of the volcanos have a snow cap, many volcanos are half covered by snow caps, and the Klyuchevskaya Sopka even is covered two-thirds by snow caps.

132 December to the end of April shipping must be stopped completely as a consequence of the ice covering in the area of the islands. Even the most southerly island, Shikotan, is cut off from all traffic with the outside world during this period.

137 Because of the great stretch of the islands from north to south, vegetation on the Kurils has developed very differently. Of the 768 types of flora established to date on the Kurils, 257 have the base of their development in Japan, and only 45 have the base of their development in Kamchatka and the adjoining mainland. On the northern island tundra vegetation predominates with widely diffused bush covering of Pinus pumila, willow bushes and birch bushes. Trees can develop only in some few protected places. The central islands have the poorest vegetation: these islands mostly are also small and of lesser height, and thus the rawness of the cool sea current can have the strongest effect on them. The southern islands have a relatively rich vegetation. Here (Uruppu, Etorofu, Kunashiri, Shikotan) there already appear forests which are rich in wood and have trees with long trunks. In these forests firs (Picea jezoensis, Picea glehni) and the Sakhalin spruce (Abies sachalinensis) predominate. Mixed in with these trees are oaks (Quercus grosseserrata, Quercus /308/ dentata), beeches (Carpinus cordata), and other deciduous trees. In higher places and in the vicinity of the coast there appear meadow-like grass areas, which occasionally lend an Alpine note to the landscape picture.

• 136 Land animals are slight in terms of the number of types. The brown bear and the wolf are in relation to the distribution of the forests. Very numerous are foxes of all types.

The bird world is extraordinarily rich. In this respect the smaller islands above all are distinguished. Migratory birds are rare. They prefer the Salkhalin route for their wanderings. The real wealth of the Kurils are the fish and aquatic mammals, which undoubtedly are poor in terms of the number of types represented but appear in unusual quantities. Among the fish the same types of salmon should be named as were mentioned in the discussion of Kamchatka. Seals stand in first place among the sea mammals, but sea lions and whales also occur. The valuable sea otter has been almost completely exterminated.

161 The number of permanent inhabitants of the Kurils was around 13,000 before World War II; in the main they were Japanese. Kuril Ainu--the original inhabitants--numbered only several hundred. The